

# 3 STORAGE TYPE ELECTRICALLY OPERATED WATER HEATER FOR THE HOME

## SELECTION, OPERATION, AND CARE POINTS

## NOTES

### ADVANTAGES OF HEATING WATER ELECTRICALLY:

- Safe (fumeless - flameless)
- Clean (sootless - smokeless)
- Flexible (short water lines - no flue or vent)
- Adaptable (easily located in home)
- Economical (insulated tank; automatic control)
- Convenient (no lighting - no turning off or on)
- Saves time and labor
- Aids in better health, grooming, home management
- Dependable (thermostat temperature control)

### STRUCTURE AND PARTS OF STORAGE TYPE HEATERS:

- Outer shell Cold water baffle or deflector
- Insulation Heat trap
- Tank Drain
- Heating elements Magnesium rod to control corrosion
- Thermostats Pressure-temp. safety release valve

### TYPE OF HEATING ELEMENTS:

1. Strap-on, single or double, encircling tank
2. Immersion, single or double, hair pin or sickle shape, inserted radially in tank
3. Immersion, single, inserted vertically through top of tank

### SHAPES OF EXTERIOR SHELL:

- Round (cylindrical)
- Rectangular - full height or upright
- Rectangular - table top with or without toe space, backsplash and lamp

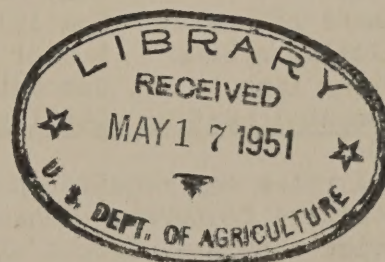
### NEMA STANDARDS ON WATER HEATER SIZES & ELEMENTS:

#### Single Element

Tank Size in Gallons		Element Wattage Rating
Range	Nominal	
30-35	30	1500
35-45	40	2000
45-55	52	2500
55-70	66	3000
70-90	80-90	3000

#### Two Elements

Tank Size in Gallons		Element Wattage Rating	
Range	Nominal	Upper	Lower
30-35	30	1000	600
35-45	40	1250	750
45-55	52	1500	1000
55-70	66	2000	1250
70-90	80-90	2500	1500
90-115	110	3000	2000
115-135	120	4000	2500
135-175	140	4000	3000





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### SUGGESTIONS FOR SELECTING WATER HEATER SIZE:

(Household use only; 16-24 hr. heating time)

No. Persons	Size in Gals.
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With automatic washer use at least 52 gal. size

2	30
3	40
4	40
5	52

Larger capacity recommended for home & farm use

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### \*TYPICAL PURCHASE PRICES:

Gals.	Elements	Tank	Price
30	single	galvanized	\$132.50
30	double	glass lined	142.50
52	double	galvanized	154.50
50	double	glass lined	157.50
80	double	glass lined	215.00

\*These prices vary with makes, localities)

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### INSTALLATION COSTS:

\*Average costs in 1947:

Utility or power supplier	\$23.00
Plumber and electrician	29.00
Total	52.00

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### OPERATING COSTS:

Average monthly use for 4 - 240 kwh

240 kwh at 3¢ - \$7.20 per month

240 kwh at 1.5¢ - 3.60 per month

240 kwh at 1¢ - 2.40 per month

Probable use ranges from 150 to 325 kwh

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### FACTORS AFFECTING OPERATING COSTS:

Leaky faucets	Distribution of demand
Long runs of pipe	for hot water
Pipe size	Size of family
Placement of heater	Family's water use habits
Circulating system	Number of bathrooms
Tempering tank	Automatic washer, dishwasher
Supplemental heating	Quality of insulation

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### WIRING:

Special rates may require special wiring and protective features. Consult power supplier.

Provide separate circuit of required size for voltage and length of run, 2 wires not less than #12 AWG, tank grounded for safety.

A switch in circuit near heater is desirable.

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### PLACEMENT AND INSTALLATION:

Place as near as practical to kitchen sink, adjacent to or directly below bathroom, and adjacent to laundry area.

Unless heater is equipped with thermal safety fuse, install temperature-pressure relief valve immediately adjacent to heater.

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\*From Electrical Merchandising, 1947.

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• PREVENTION OF CORROSION AND SCALE DEPOSIT:

1. Buy glass lined tank (see warranty)
  2. Buy tank with magnesium rod inserted
  - 3. Buy copper or monel tank. (Non-corrosive. Initial cost high.)
  4. Install water softener ahead of heater
  5. Install feeder of corrosion-resistant chemicals in water supply line
  6. Use lower water temperature - not over 150°
  7. Avoid use of furnace coils for heating
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IN SELECTION LOOK FOR:

1. Type tank suited to water supply
  2. Adequate size for present and future needs
  3. Good insulation
  4. UL approval
  5. Easily accessible drain
  6. Easily accessible electrical and plumbing connections
  7. Cold water baffle or deflector
  8. Heat trap to prevent back circulation
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BEFORE BUYING:

1. Consult with power supplier regarding:  
wattage requirements, tank size, lowest rate available, additional service entrance facilities and wiring if any required
  2. Consider the economy of electric cooking and water heating over water heating only
  3. Read warranty carefully
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USE AND CARE:

1. Set thermostat at lowest temperature desired for most uses. (Upper thermostat about 5-10° F lower than lower one.)  
130° - 140° - Hot enough for most household tasks  
150° - Factory setting in most cases  
160° - Best for washers and dishwashers, but too hot for use at faucets and for hard waters without softener.  
(Thermostatic mixing valve and extra piping provides 125° water at faucets and 160° water at automatic washer and dishwasher. Costs \$15 up for valve plus pipe and installation.)
  2. Drain tank and turn off electricity if subject to freezing temperatures
  3. Drain 1 or 2 gallons off every month or so to remove sediment if any.  
(Shut off lead-in valve - open drain)
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